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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/933,994	08/21/2001	Thomas Gray	481340010036	7624

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EXAMINER	
WU, QING YUAN	

ART UNIT	PAPER NUMBER
2194	

DATE MAILED: 05/02/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/933,994	GRAY ET AL.	
	Examiner	Art Unit	
	Qing-Yuan Wu	2194	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *24 February 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-4 and 8- 9* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1, 4 and 8- 9* is/are rejected.

7)☒ Claim(s) *2-3* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

WILLIAM THOMSON
SUPERVISORY PATENT EXAMINER

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1-4 and 8-9 are pending in the application.

Continued Examination Under 37 CFR 1.114

2. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114.

Allowable Subject Matter

3. Claims 2-3 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 101, set forth in this Office action and to rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claim Rejections - 35 USC § 101

4. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

7. Claims 1-4 and 8-9 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. The method as recited is not tangibly embodied in a

computer readable medium nor executed by a computer; the claims are not statutory since no requisite functionality is present to satisfy the practical application requirement (i.e. there is no indication that the steps of the Method require use of hardware to accomplish the steps). See MPEP 2106.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 1, 4 and 8-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ferguson et al (hereafter Ferguson) (U.S. Patent 5,504,894).

6. Ferguson was cited in the last office action.

7. As to claim 1, Ferguson teaches the invention substantially as claimed including a method of sharing a resource amongst a plurality of applications issuing requests in different request classes [col. 2, lines 62-67], comprising the steps of:

i) dynamically assigning a priority to each of a plurality of request queues associated with respective ones of said request classes [col. 2, lines 43-45];

ii) receiving and queuing said requests from said applications in said plurality of

queues in accordance with said respective request classes [col.3, lines 1-5; col. 9, lines 20-25; Fig. 2];

iii) allocating said resource to one of said applications whose request has highest priority in a highest priority one of said queues [abstract, lines 14-17; col. 8, lines 3-6, 12-15], and

iv) in response to said one of said applications relinquishing said resource [col. 7, line 67] repeating steps i) to iii) [col. 5, lines 38-39; col. 7, lines 66-67].

8. Ferguson does not specifically teach that the assigning of a priority in accordance with a moving average resource allocation to each of said respective request classes and the priority assigned to a respective request queue being a function of the moving average resource allocation to the associated request class, and allocating resource to a request that has been queued longest. However, Ferguson disclosed dynamically adjusting scheduling priorities of a class in accordance with the response time dissatisfaction performance index of a class [col. 2, lines 45-47; col. 3, lines 37-45; col. 5, lines 57-67], transaction class queues [col. 9, lines 20-29] and determining a highest priority queued transaction using a round-robin scan [col. 8, lines 15-16].

9. It would have been obvious to one of an ordinary skill in the art at the time the invention was made, to have recognized that Ferguson's performance index of a class is an average of response time which determines the priority of a class and is directly affected by the resource usage of that class in its corresponding Back-End Processors (hereafter BEP) [col. 6, lines 20-35;

col. 8, lines 20-21]. In other word, priority of a class is dynamically adjusted due to the change in resource usage (i.e. moving average resource allocation). In addition, it would have been obvious to one of ordinary skill in the art at the time the invention was made, to have replace Ferguson's used of a non-priority sorted queue that uses a round-robin scan to determined a highest priority queued transaction with a first-come first-served (hereafter FCFS) queue to satisfy a predetermined scheduling criteria.

10. As to claims 4 and 8-9, Ferguson as modified does not specifically teach wherein the priority assigned to each of said plurality of request queues in accordance with said moving average resource allocation conforms to a predetermined linear, exponential or step function with steps of varying size. However, Ferguson disclosed updating class priorities based on goal satisfaction [col. 3, lines 37-46; col. 7, lines 8-10]. It would have been obvious to one of an ordinary skill in the art at the time the invention was made, to have included the above limitation to further clarify the relationship between priority function and the moving average resource allocation.

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. Patent Application No. 5,884,037 to Aras et al, and U.S. Patent Application No. 6,788,692 to Boudreau et al teach resource allocation based on moving average.

Response to Arguments

12. Applicant's arguments filed 2/24/06 have been fully considered but they are not persuasive.

13. In the remarks, Applicant argued in substance that:

a. Claim 1 as amended fully distinguishes over the prior art.

b. There is no teaching or suggestion of assigning priorities to request queues.

14. Examiner respectfully traversed Applicant's remarks:

15. As to point (a), in response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., priorities are assigned taking into consideration resources that have already been allocated to a class...the Applicant's invention assigns a priority to each queue based on the proportion of time the shared resource has been assigned to the respective request class for that queue...if a class is already using too many resources, I will reduce its priority to access additional resources) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). The examiner agrees with the distinction between Ferguson and the Applicant's invention as pointed out in Applicant's remark, however, the claimed invention fails to support such a distinction.

16. As to point (b), Ferguson teaches queues of transaction classes [col. 9, lines 20-29; Fig. 2] and dynamically adjusting the scheduling priorities of class of transactions based on a performance index [col. 2, lines 43-47; col. 3, lines 37-45].

17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Qing-Yuan Wu whose telephone number is (571) 272-3776. The examiner can normally be reached on 8:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Thomson can be reached on (571) 272-3756. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

WILLIAM THOMSON
SUPERVISORY PATENT EXAMINER

Qing-Yuan Wu

Examiner

Art Unit 2194